



AN ESSAY
ON
THE GRIPES OF HORSES.

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ET NATUR. CUR. BEROLIN.

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ON

THE GRIPES OF HORSES.

THE object of this small Essay is to establish the treatment of this dangerous complaint on more certain and less precarious measures than hitherto have been used, for very various and often quite incompetent have been the means resorted to by the public on these sudden emergencies. By which a protracted suffering is occasioned to the animal, and also but too frequently a fatal issue. One should apprehend it must ever impart agreeable feeling to be able with tolerable certainty to relieve a noble animal from excruciating pain, and ourselves from the severe losses which his death is apt to occasion, which we propose by a more combined and consistent mode of treating the disorder.

The medicine here recommended, we apprehend, is new as to its application to Horses, and we may also observe it has hitherto been employed as a secret, and confined pretty much to those who have learned its use under my roof, and who have carried it to various parts of this kingdom, and to the continent of America, whither they have settled, and have proved extensively its beneficial effects, which to me also have been confirmed by a period of practical trial, more prolonged than the

poet's precept* enjoins, before I have ventured to make it known.

In making it thus public I also cheerfully relinquish the profits which the sale of it among those who had been witnesses of its effects led to purchase it, and also avoid the charge of an empirical practice, hoping sincerely, that now the veil is about to be withdrawn, and the charm which mystery ever imposes is about to be removed, it may not cease to please, for, great surprise and satisfaction often attended the exhibition of it whilst a secret, and wish that it may long remain to be a welcome resource on these occasions: I could desire also, in promulgating it, to give a caution against the abuse of it when its use has become familiar, first in being too confident, and next perhaps too careless in the exhibition of it, by which it might fall into disrepute, and disuse, and finally be lost again, as has been the fate, I believe, of many a valuable discovery. Let me here also add, that it is not by the medicine alone that these effects are produced, but by a conjoined and concurring mode of treating the animal in assisting its effects, which in difficult cases is more especially necessary to ensure success. Publishing it also affords me the opportunity of advancing some new views and opinions respecting the causes and nature of this complaint, which are more true perhaps than many found in the writers of the present day, and which may lead to a more useful kind of knowledge even than the remedy, that is, the measures necessary for averting the frequency of it.

I acknowledge I was often unsuccessful in the early part of my practice in this disorder, if the attack was very severe, though using all the then known remedies and means of treating it: embarrassed and uncertain also of what should be the primary object in its cure, sometimes fearful by stimulants of

* Nonum prematur in annum. HOR.

inflaming the bowels, and rendering the disorder more fatal, and so avoiding the use of them : at other times attending only to the diminishing of the pain by anodynes, at others believing that patience and mild measures were the best to be pursued, and in uncertainty what real course to take, the patient was lost ; believing at last, from noticing their effects, that the true road to cure lay in a bolder use of stimuli, I was determined to push them more vigorously, and pursue them till relief was obtained, setting aside and almost disregarding all other indications or apprehensions, till this was effected. For though the same means nearly have before been often employed by the public, yet when done feebly and not repeated, or too late, as was often the case, it failed of success, and they were also frequently counteracted by pursuing confused and contradictory measures along with it, not consistent with or supporting the remedy ; which causing it often to fail, left uncertain impressions on the mind as to the plan that ought to be pursued, of which we have sufficient proof at this hour by the very dissimilar nostrums and modes of treatment recommended in books daily published.

To give clearness to what I have to communicate respecting this disorder, if I rightly judge, it will be best first to state two or three unsuccessful cases, with their treatment, as formerly practised, and the appearances after death of the parts concerned ; and afterwards a few successful cases, and the remedy and treatment used with them, and conclude with some remarks of what appear to be proximate and predisponent causes of this singular disorder, and manner of operation of the remedy ; and finally subjoin an account of some other diseases which come near in their symptoms to this complaint, so as to be easily mistaken for it.

In the commencement of my practice in this city I had extensive opportunity, especially among the breweries, of wit-

nessing this disorder ; and it was often painful to see its destructive effects, which caused my joy to be the greater when I found I could, with so much certainty, controul its fatal progress.

The following case, among others, occurs in my book of recorded cases for the year 1801.

A horse was seized with the gripes at the large brewhouse of Meux, Reid, and Co., at about half past five in the morning, at least it was then first discovered by the men coming to the stable, and might have been going on all the night, and as this horse was situated not far from the door, and almost opposite to it, I had reason to believe the door had been not properly closed, and that cold air blowing upon him in the night time, had produced the attack upon a full stomach ; so that the disease had partly gone through its natural course before it was detected. The symptoms were, frequent lying down and getting up again, and rolling about in great agony ; he often stretched himself out, and would turn his head and direct his eyes towards his flanks with expression of agony, as though indicating where his pain lay ; a cold clammy sweat was upon him when I first saw him at eight o'clock, and a farrier near at hand had given him a cordial ball with aniseed, and left him to his fate, and about nine he died ; so that the disease might be fairly said to have pursued its natural course.

I was desirous to see him opened, and found a most extraordinary thickening and inflammation of the *cæcum*, as though a general rupture of the vessels and membranes of this intestine had taken place, and the blood was lodged between its coats ; the inside lining of the intestine was almost black, the outside comparatively but little inflamed. The intestine itself contained a great deal of ill digested and ill masticated food, of beans, oats, and ill chewed hay, mixed with a bloody water, or red serum, which had probably been thrown out from the distended arteries and vessels which at length were ruptured by

the inflammatory action. The small intestines were not much affected ; here and there a patch of inflamed surface.

The stomach was whiter I thought than usual, and freer from blood ; probably the blood had been drawn away from this part to the inflamed portion of the intestines, or had been in a state of spasm.

Whether in this case the disorder was brought on from voracious feeding, and not sufficiently grinding his food, or in consequence of exposure to cold from open doors or windows, or both causes combined, we are not assured.

The second case I select occurred in a stallion, taken ill at Islington, while in the dray. He was brought home about three o'clock in the afternoon ; I was soon after sent for. Here the symptoms were the most violent, and the pain and inflammation went on in the most rapid way I had ever yet seen. A ball with opium was immediately administered : his sides were rubbed with hot cloths, wrung out of hot water, and we endeavoured to give him a clyster, but in vain, his pain and rolling about afforded but few opportunities to introduce the pipe, and then the clyster was rejected without passing a foot's length into the gut, a spasm of the intestines appeared in the most effectual manner to close all entrance or exit to the intestines. After warm ale and spices, and other things of this sort had been given him, he died in great agony about nine o'clock.

We immediately opened him, and found the *colon* and *cæcum* highly inflamed, and an immense quantity of ill chewed, undigested food within, and a large quantity of greenish red water, and some air. Here the cause evidently appeared to be indigestion ; and from the horse-keeper I understood he was a very voracious feeder, and had been several times seized in this way before, but not so violently.

July 27th, 1800, I was sent for to a case of gripes at the same brewhouse, a brown dray horse ; he was not so cruelly

agonized as in the preceding cases ; he stood up much, sometimes lay down, and rolled about but little.

I gave him a ball, containing two drams of spirits of turpentine ; I expected it would have induced staleing, but during an hour that I stood by him it did not operate in this way. I ordered him to be well rubbed with straw, and we took a broom stale, and two men rubbed him under the abdomen with considerable force. This not relieving him, and as he began to swell at the flanks, I had him covered with cloths, and run up and down the yard. This, however, did not relieve him, and we next forced in copious clysters of hot water. These, however, were immediately rejected in the same state they entered. We raked his fundament, but no dung was lodged there ; we clystered again, and held down his tail, with straw placed underneath to make him retain it, and we could in this way often get in three or four syringefuls without any escaping ; but when at last it was forced out, it gave no signs of having entered the intestines, at least far enough to do any good, as it came out much as it entered, bringing nothing with it.

At this period I was in uncertainty of the true cause of gripes, whether it was spasm, strangulation, or inflammation of the bowels or stomach, or both, and whence it proceeded. I was afraid if it proceeded from indigestion to remove much blood, lest it should weaken the powers of the system, that should be in full vigour to operate relief. I was afraid, also, of giving strong things in much abundance, lest they should add to the pain and inflammation, that I was greatly at a loss how to act ; but this and other cases seemed now to prove that indigestion was certainly the primary cause of the mischief.

In the above case, finding nothing avail, I was next induced to try the old nostrum of the farmers in the country, of gin and pepper, and whilst he was exercising in Gray's Inn Lane, half a pint of gin mixed with half an ounce of pepper was given

him by mouth, and he was led home ; and by the suggestions of some spectator, an onion was placed in the fundament ; for I was willing to lay aside all theorising, and try any suggestion that might be proposed, however ignorant it might appear, as sometimes chance or accident has led to a plan of relief ; but these means had no sensible effect. Warm water clysters and salt were next given him, but these also seemed to afford no relief. At the suggestion of one of the proprietors a dose of calomel was administered, as this had been found serviceable in a case of some stoppage or obstruction of the bowels of a lady. I administered it with some aloes, in the dose of half an ounce, but without effect ; he died at seven the same evening, being thirteen hours from the time of his first being seized, and longer by seven or eight hours than in the other cases.

I paid much attention to this case, and found it necessary to endeavour at some more effectual system of treatment, as these nostrums were evidently uncertain. I observed that it usually took place an hour or two after feeding time, or in less time than this, which seemed to indicate pretty plainly, its being a suppression from some cause of the digestive act, and that this was immediately succeeded by the commencement of a chemical one, in this way the air is produced, which by distending the intestines, and the food becoming dry irritates them, brings on the inflammation of the bowels, fills the flanks, and produces the intolerable suffering ; for it is certain there is present in the abdomen all the ingredients and agents necessary for a brisk chemical action ; viz. vegetable matter, as hay, corn, or both, water, the animal secretions of the stomach and bowels, and plenty of heat.

Now as the chemical ferment begins as soon as the proper animal process of digestion ceases, so the cure appeared to depend in bringing on again the digestive process, which, if the

stomach is still excitable, and the intestines not actually mortified, may be generally hoped for and effected. The earlier, therefore, the treatment is begun, the better chance, though I have seen them perfectly restored after seven or eight hours, or longer, and the attack is often more advanced than we apprehend, as the animal will not show external indications till the pain becomes considerable, and then they may, from various casual circumstances, not obtain immediate attention.

To effect this purpose more fully, I looked for some remedy effectually stimulating, and determined to push the use of it without intermission, till relief was obtained, or the termination of the case in some way. The reproduction of the digestive process seemed the indispensable object for the cure. I knew none more likely to produce these happy effects than the *pimento* berry, joined with a fair share of ardent spirit, but lowered so as not to produce a direct inflammation or caustic effect upon the stomach, for I was quite decided that gentle means, in very many cases, were quite inadequate to the business, and therefore the remedy should be recommended to be kept in all large stables, ever at hand and ready, that the moment the disorder appeared it might without loss of time be applied.

On opening the above horse we found that the inflammation was not confined to the large guts, but the *ilium* and *jejunum* also were sufferers ; some balls of dung were found about the middle of the *ilium* that had the appearance of having undergone a strong compression, and some of these balls appeared externally red with blood. The commencement of the colon contained a large portion (two hats full) of almost dry, undigested grain and hay. This had probably dried through the excessive heat and inflammation, or was presented to the animal without his having had the requisite water or moisture for the digestive process, I do not undertake to determine which, but care in this respect seems necessary in those who feed

them. Though it be a known fact, that animals have the power of giving the due pultaceous consistence to the mass in the stomach, before it passes into the intestines, and this whether it has been given with or without fluid, yet the excessive privation from watery fluids, or a peculiar febrile state of body, may render this more difficult, and the quantity often in the horse's stomach of food is very great. The stomach, however, was found full of hay, and of a good healthy appearance, and by no means too dry ; that this part did not participate in the mischief, or its powers had been reinstated, but not so the intestines. This I was the more surprized at, as I had not observed him to eat any thing from the time he was seized. In this last case I also observed a gangrenous patch, as large as my hand, on the colon, the only instance I recollect to have seen it in the horse. All the internal surface of the intestines was like a mass of red sponge, drenched and filled with dark grumous blood.

This horse seemed to look about earnestly, as though desirous of something. I offered him both hay and corn, but he would not touch either. I have since thought it might be water he sought for, or, as I have seen in other cases of disease, it was simply expressive of a desire after help. Water might in these cases be administered warm with good effect, especially after the violence of the attack had subsided ; if given with the remedy there is danger of its diluting it too much, and weakening its effect.

Such were the appearances after death in these fatal cases.

In another, a chesnut saddle gelding, where the disease had run out six or eight hours before help was applied for, the administration of the medicine only served to protract the death, he dying at the end of fifty hours. His stomach, the red part of it was highly inflamed, and in one part mortified, which had ruptured, forming an opening as large as half a crown ; one

of the small intestines was dreadfully inflamed, and one of the large intestines, (the sacculated colon,) in which the contents appeared like chopped hay, mixed with reddish chocolate grounds. This appearance was, perhaps occasioned by the vessels distending from the inflammation, and pouring their black contents among the food, which at first, perhaps, or previously, had been nearly or quite dry.

In order to the pursuing my plan of a high stimulant kind, and repeating it at short intervals, till the digestion of the food was obtained, or the disease decided ; for I began to apprehend that nothing short of the reproduction or return of the digestive process would save the animal, I therefore prepared in readiness the following tincture :—

Pimento, 1 lb.

Water and spirit of wine, each three pints.

These were allowed to infuse for several days, and might be strained off, or stand together till their use was required. At first I employed the pimento mixed with other spices, and administered it in a ball, and poured gin or other spirit into the stomach after it, but as the first case treated in this way did not succeed, I had recourse to the tincture, as more immediately active, and not creating the delay that the solution of the ball in the stomach would require ; though in the above case it did not cure, it produced a great alleviation of the disorder for the better, so much so as to determine me more vigorously on the next occasion to pursue the same plan ; and this I was encouraged to do, as I found the remedies, though potently administered, had not sensibly inflamed the stomach. The fatal symptoms of dilated nostrils, quick laborious breathing, cold sweats, cold breath, stupor of the eyes, *vultus pigrities*, or the constricted distressful countenance, and death did not in this case take place for more than twenty hours ; the

suspension, therefore, and remission of the complaint was evident. In the next case, therefore, I proposed advancing with more boldness to these means, as to the only hope.

When indigestion from any cause takes place in the human body, it is situated generally in the stomach itself, and the remedy immediately is applied to the part affected: but in these animals it would appear, that as it is chiefly in the *cæcum* and intestines, its influence is by a secondary process, by the sympathy between this intestine and the stomach. Setting aside all theory, however, it appeared evident from the suspension of the complaint during more than four hours in the last case, that it was the right course to pursue in order to the cure.

It may be remarked, that too large a quantity of food at one time in the stomach, more than can conveniently be digested, will lead to this complaint, and especially in horses that have been many hours at work, and return in a debilitated state through fatigue; for it appears that horses do best with a little at a time and often, and of this we are instructed by observing them in a state of nature, almost continually feeding, unlike most other animals. Hence, perhaps, is the reason of their having no gall-bladder, the flow of bile into the intestines being almost incessant; and for an animal destined to be fleet to have a loaded stomach would be a great inconvenience.

Another fatal case occurs in my notes for 1801, the record of which may be useful, in which I administered all the usually proposed remedies,—cordial balls, sweet spirits of nitre, tincture of opium, tincture senna, tincture gentian, which protracted, but did not save from the fatal conclusion, nor were they administered with any method or system. He lived, however, nearly two days and a half, that the struggles between death and the remedies was brought to a nice poize.

It is a matter of some curiosity to know what the cunning Greeks thought of this complaint, and how they treated it.

The veterinary writers of Constantinople, as *Apsyrtus*, *Hierocles*, *Hippocrates*, and *Anatolius*, and others, have termed this disease *Στροφός*, as through the gut was somehow twisted, or perhaps from their rolling about. *Apsyrtus* recommends clothing them, raking the fundament, and the herb *Centaury* to be administered with wine and oil, a glass of each warm, and then to be exercised. If these avail not, *myrrh*, *opopanax*, and *seeds of apium* to be given with the Indian Moss (*το βεύον*.) or the *Chelidonium*; and in order to make him stale, he is to be rubbed over with wine and oil, and the same given as a drink. He is to be fomented with warm water, and barley meal to be given him.*

Hierocles recommends an egg broken in the mouth, and swallowed shell and all.

Hippocrates gives a good description of the disease, and recommends his being kept in a warm place, with warm lotions and warm coverings, and five drachms of myrrh in six gills of old wine should be administered through the nose or mouth. After this drink he is to be exercised, but not vehemently, or with long intervals. If it can be got, let him have for food plentifully of *Apium*, and warm water to drink. After raking him, let him be led about, so as to induce sweating. Afterwards pounded seeds of *Nasturtium* to be given him through his left nostril.† Let him be covered with cloths, and the herb *Medica* be given him. Also shavings or raspings from the front hoofs, let him be drenched with in four hemina of water, or the earth taken from the shrew-mouse's hole is to be pounded and given

* *Scriptores Græci Veterin.* p. 148. *Ruellius*, p. 57.

† There was a charm imagined in this, for it does not present so well as the right nostril for this purpose.

him. What a wretched mockery of assistance must these last articles have been, and what a state of folly and superstition do they indicate.

Anatolius follows much the same line of recommendation, but without any description of the disorder. Among other things four whole eggs with their shells to be forced down the animal's throat. *Wild rue, figs, and onions, nitre, pigeon's dung, &c.* to be placed in the anus, as *Collyria*. How many a wretched horse must have suffered by such treatment!

These ancients, appear to describe this complaint under another name, *κοιλία*, the chapters relating to which should have been added, it appears to me to those of the former on *Στροφος*, by Ruellius, as being one and the same disorder.

Pelagonius has given a chapter thereon which is curious, as preserving the prescription of Celsus for it, which, as his work is lost, is the most considerable vestige perhaps remaining. It is, however, singular, that though inserted in the Latin translation, Ruellius has omitted it in the Greek text edited by him, as is the case with some other pieces also,* “ Of the *Pontic root, pepper, garlick, petroselinum, fennel seed, black pepper, horehound mugwort*, of each an ounce. *Dill seed a scruple, libisticum, centaureum*, each an ounce. *Ajuga half an ounce, eupatorium* a sixth part of an ounce ; *pennyroyal, rue, apium seeds*, each an ounce ; *ginger half an ounce, honey two pounds* ; let them be pounded together dry, and sifted into the honey, and kept for use. A ball, the size of a hazle nut, to be given in warm water, when the disease requires it.” How insufficient must these measures have been for cure, or even alleviation of the disorder !

In respect to the Romans it is also matter of curiosity to observe their proceedings and knowledge of this disease.

* Ruellius, fol. 42.

The early writers of the Romans who treat of the management of their villas or country seats, as Cato, Varro, Palladius, and Columella, hardly make mention of this disorder.

Vegetius has largely treated of this complaint, but under various names and in a very confused manner ; his best account is in Book I. Chapter 42 and 43, *Cura longanonis et Ilei. Causæ et Curæ Strophi*. He mixes also, without any notice of it, the diseases of cattle with the diseases of the horse. He recommends warm fomentations to the loins, and putting hay wrung out of hot water upon the loins ; rubbing them well with hair-cloths, and diligently anointing these parts with oil, tar, and laurel oil made hot, and also their testicles ; and a warm medicament to be poured into their ears : these to be continued till he sweats and emits wind, which indicates a remission of the disorder. To let him stand in a warm place and be covered with sacks, and receive daily the following drink, *pepper, petroselinum, Alexandrian and African cummin, seeds of apium, myrrh, nepetam, trixaginem* mixed with half their weight of *nitre*, well wrought together with warm wine and oil and honey. He farther proposes what appears an excellent plan, *bags filled with hot bran* to be placed upon the loins, and clysters of warm water, oil, salt, honey, and nitre. And pastills, (if there shall be no opportunity of clysters) made of pounded salt and honey to be placed in the fundament ; which he observes, will draw away the sharpness of the humors and lead to health.

In the second, or latter chapter, *Causæ et Curæ Strophi*, he recommends the operation of puncturing the abdomen four inches below the navel towards the sheath, cutting through the skin, or integuments, and the peritoneum, but to carefully avoid wounding the intestine.* — Next he orders a

* How the air is to escape does not appear ; and this chapter seems designed for the hoven cattle.

pipe with small perforations to be inserted to draw off the humors.

He again notices this complaint under the term, *Emphragma*, Lib. I. cap. 47, and again cap. 48, *De Ileo*, and cap. 49, *De dolore ventris*, and 62, *De Stropho*, and also Lib. III. cap. 52, where he has given us the above quoted prescription of *Celsus*, which *Pelagonius* had given, but it begins with *Anisi Pontici* instead of *Radices Pontici*; in other respects similar. Lib. III. cap. 57, he again enters on this complaint, copying imperfectly the prescriptions of *Anatolius*, to which he, or some one for him, has added *hares' dung* and *pepper* as a drink. Finally, cap. 59, Lib. III. he appears to be copying the description before given of *Hippocrates*.

We shall now, in pursuance of our proposed arrangement, give the short history of a few successful cases of this complaint in which the new remedy was used.

On the 9th of the sixth month, (June) 1802, I was called up early in the morning to a horse that appeared actually dying of the gripes, having been seized in the night; I administered immediately about four ounces of the above strong tincture, which I mixed with a little water; after waiting twenty minutes no relief appeared, and he seemed in extreme agony, as much so as I ever had recollectcd to have seen, stretching himself out, lying down and kicking most violently, his skin cold, his breathing laborious; I immediately ordered a quarter of a pint more to be given with a little water, and for him to be well covered with cloaths from head to tail; this not giving relief in half an hour, I ordered another quarter of a pint to be thrown down with a horn, as the former was, and a clyster of water with a handful of salt in it. His pain, however, increasing, or not at all abating at the expiration of three quarters of an hour, I repeated the dose, disregarding all apprehen-

sions about inflammation ; I then left him half an hour, desiring the assistants to keep the cloaths upon him, and to repeat the clyster. I returned after about an hour, and found him laid stretched out on his back, cold, and apparently dying, (I had also ordered him to be blooded), his blood had coagulated, exhibiting much buff :* considering him as lost, I quitted him for other business for one hour, and did not expect on my return to see him alive, he lay in a state apparently insensible, stretched out with his mouth open. I made him get up, and as he seemed in less pain, that we might not lose the ground we had got, I ordered him another dose of the tincture, with the addition of a little *oil of peppermint*, as being a strong and diffusible stimulus ; I next gave him two quarts of warm water, and a hornful of warm water to be given him every hour, and I ordered him again to be blooded, when the blood exhibited but little or no buff, which made me doubt if the spices and spirit might not have some power in checking this formation. I ordered again more of the stimulating tincture, with the *oil of peppermint*, though in numerous cases since I have found it as efficacious without it. I desired he might be again clystered, and gave him a gentle dose of *aloes* to increase the action of the intestines and induced them to discharge their contents, and left him for that night ; at ten next morning I found him on his legs, and he had dungen once during the night ; his dung was hard, dry, and on the outside bloody ; where it had been in contact with the intestines, it appeared to have been embraced and imprinted by them very strongly ; these balls of dung when broken were highly offensive, and contained much unchewed and badly chewed corn.

* I mention this circumstance as being contrary to the usual appearance of the blood in this complaint, *which is without buff*, and from which I conclude some inflammatory action was going on in this case, probably peritoneal inflammation.

As this was as severe a case as I think I ever attended, it satisfied me that even in the very bad cases we ought not to despair.

1802, 9th month, 20th. I was called in the evening to a horse that was extremely ill of the gripes, pawing with his fore feet, lying down, getting up, and continually restless; sometimes kicking with great violence. This case, as it resisted the medicine for three or four hours, I much despaired of; it at length yielded to the steady and repeated administration of the medicine, after nearly three pints had been used. As soon as he got relief, he began eating, and perfectly recovered, nor had any return of his complaint. After that he had been ill four hours, I took two quarts of blood, which coagulated without any buff. I had him bled again the next day from curiosity to observe if any buff was formed, but none was found.

Without describing more of these cases in detail, as they are much of the same complexion, and the particulars of treatment are given at the conclusion, I may state, that during six years that I afterwards attended the horses of this brewhouse, out of very many cases I lost but one, which it unfortunately happened was seized in the night, and the complaint had pretty well gone its natural course before the remedy was administered; and I remember in particular one case at Calvert's brewhouse, which I attended, and where seven hours had elapsed before the application of the tincture, and after resisting it six or seven hours more, and was often given over as dead, he recovered, to the admiration of every one concerned. And the testimonies published, with the directions at the end of this treatise for using the tincture, will shew how successful it has been at other breweries, and many farmers, waggon owners, and others, could bear the same testimony.

Two stages sometimes belong to this, as to most other disorders; the first is the *Strophous*, or simple gripes—and next, the

Enterital, or inflammatory stage. In this it should be particularly noticed, that copious bleeding, fomentations to the abdomen, and extensive blistering of the integuments become necessary ; warm water plentifully by both extremities of the canal, and other means of subduing *Enteritis*, perhaps saline purgatives. It will be obvious, however, that unless the cause, which is the undigested mass, be previously removed or acted upon, this can nought avail.

We are now led to advert to the causes of this disorder, and the rationale of the cure, as far as we have had time to consider it, well aware how subject this part of the Essay will be to change with every new shade of light brought upon the physiology and pathology of animals, which each succeeding age, for a long time at least, will view differently.

The tendency to this disorder in these animals, more than in others, we have thought may be accounted for, in some degree, by the vastness of the intestinal canal, exposing a prodigious internal surface to be acted upon by the food, which can maintain and support its living actions upon it with the more difficulty. The intestines we have also thought are thinner in proportion to their magnitude in the horse than in the generality of animals ; whence from slighter causes the process of chylification, &c. is more subject to be disturbed and suspended. Also, the abdomen in these animals presents externally to the elements a vast surface, which if wetted by showers, or chilled by currents of air, will lead more readily to these effects ; hence a frequent source of this complaint with dray-horses is, the stopping in the streets or at the doors of taverns to drink or deliver beer, a shower of rain or a cold wind happening at the time, will presently bring it on, and especially if the animal is sweating, and still more easily if he has been lately fed, or has voraciously fed : therefore, in rough weather they should have a cloathing for the loins when so exposed. We have also,

thought, that in these animals there is comparatively more a scanty covering to the intestines of *Epiploon*, less so than is given to most others; in the human this part is of very considerable density, and with copious fat lodged in and about it which keeps the bowels warm, and which provision would have perhaps been incompatible, or not so suitable, to a very fleet animal. The mischief of the disorder, we see, is chiefly in the *cæcum* and *colon*, and it is in these large intestines next the skin, and most exposed to the parietes of the abdomen, that it takes place. Horses that sweat much at their work, either through impatience or debility, will be found also very liable to it. This disease can also be brought on in another way. A farmer's man brought his cart into my yard for a load of dung, he threw down before his horses some hay, and gave a pail of cold water to each; one of them in a few minutes after was seized with the gripes, he refused the food he was eating, and wanted to lie down, continually shifting his posture; the man was going to run him about, I however ordered him into my stable, took off a cloth from one of the horses, covered him warm, and in less than half an hour, without any thing else, he recovered. Here the stomach only must have been affected, which is, perhaps, the simplest mode of the complaint.

To the measures or directions given at the end of this Essay may be added, rubbing the abdomen briskly with the hand, if practicable without removing the clothing, by putting the hand underneath, and if the hand was covered with a flannel glove, or small flannel bag tied over it, it might be the better, this, though simple, is, I believe, powerful in its effects. Running the horse about is better than nothing, but as better measures still can be used with as little or less trouble, it is needless. The tincture can be aided also by *Pellitory*, *horse-radish*, *mustard*, or other stimulants, if it shall not be thought

stimulant enough, though simplicity is ever to be recommended if it answers the purpose.

We now conclude with stating a few diseases whose symptoms so much resemble *Strophos*, or gripes, that they may be mistaken for it.

Coactio, or *Gorged Stomach*. A case of it. A dray-horse was subject at times to indigestion and griping pains from weakness of stomach, as it appeared, which left him again without the assistance of medicine; one day, whilst delivering beer and exposed to a chilling north-easter, he was taken very ill, reeling about and endeavouring to lie down, he was taken by the dray-man to a farrier near at hand, who called it the gravel, and gave him a drink, as he said, proper for it;* instead of coming home and administering the gripe-tincture immediately, as he ought to have done, he continued several hours out; when he came home I was sent for, and I watched him some time, and apprehended from the symptoms that it was a mild attack of gripes; he pawed now and then with his fore feet, but not violently, lay down, and after a few minutes resting got up again; his breathing was agitated but not violently so, his eyes fixed, and staring, and watery, expressive of internal suffering. He sweated about the neck.

I ordered him warm beer with ginger in it, apprehending, as the attack was not violent, it might suffice; the stable to be made as warm as possible, and several cloths to be thrown over

* Which is mercifully removed by his provident Creator from the catalogue of his sufferings, the horse not being subject to this purely human disease.

him, his stall to be well littered down, if not relieved in an hour, the gripe tincture to be given him, (which they omitted to do) and he passed the night much in the same manner ; in the morning the gripe tincture was administered, and he was bled, which seemed to relieve him very much ; his symptoms all returned, however, and his breath and saliva, which frothed out of his mouth, became very offensive, and I then began to suspect it was a case of gorged stomach ; I ordered plentifully the gripe tincture, a blister to the abdomen, glysters, warm water, warm clothing, and vinegar sweetened with honey ; all, however, availed not, and he died on the fifth day after the attack ; opened, his stomach was found unusually distended with food, which he could not digest.

Chordapsus, Ruptured Stomach. When the stomach ruptures, its contents pours from the nose and mouth ; I never saw a case of this kind, but I record it from the report of my esteemed friend, Frederick Nash, who was present at a case of this sort when living at Cambridge. Death immediately follows. A stomach I once found ruptured, but whether from external violence after death by the slaughter-house men, or that it took place during life, I know not ; the symptoms were those of gripes, but the skin colder, and no vomiting took place ; the intestines were in this case inflamed : bad heated ship oats were the alledged cause of this attack.

Enterocallus. Intestinal Balls, vulgarly called *Calculi*. Are generally found in the pouches of the *colon* after death, and have no relation to bladder *Calculi* ; they sometimes move from their sacks or pouches during life, when *Enteritis*, or inflamed bowels, and the death of the animal generally follows. A case was related to me by a distinguished brewer, where two or three of these came away, and the animal perfectly recovered. Though heavy and stone-like, these balis burn to a friable coal, and are formed very much of animal gluten. The *rectum*, also, has its peculiar balls, which are rough, with vegetable

fibre like hairs, formed of very irregular masses and nodules, with some foreign body as iron in their centre. The balls of the *colon* have generally some foreign body also for a nucleus. Millers' horses, who eat much bran, mixed with grit from the mill-stones, are particularly subject to them. I may just state, as a most rare occurrence, that the yellow mucilage, which renders turbid the urine of the horse, in the bottom of the bladder has been found deposited in a mass ; but this is in no respect like the human *Calculus*, or gravel, though by some it has been urged in proof of it.

Introsusceptio Intestinorum. In the case of a gentleman's coach-horse at Hampstead, which died before my arrival, I found, on opening, a piece of the *jejunum*, about a foot in length, mortified and black ; I ordered it to be drawn out, and observed it had been received into a piece of the adjoining gut, whose cavity it filled by inversion ; the inside of the intestines contained a thin bloody humor of a deep red colour, no undigested food was seen in the large intestines. His symptoms they stated resembled the gripes, with unusual chillness of the legs, and prostration of power.

Strangulatio Intestinorum. I casually saw opened, at Baker's slaughter-house, a horse that had suddenly died, and I remarked the intestine was twisted in two places, at about eight inches distance, at these places white, and free from inflammation, perhaps owing to the pressure, but above and below of the deepest red. The inflammation extended through a long course of the gut, almost to the *cæcum*.

Pleurisy, and Peritoneal Inflammation, are also attended with excessive irritation and acute feeling in the horse ; kicking with the hind and pawing with the fore feet, that might be mistaken for the gripes.

DIRECTIONS WITH THE GRIPE TINCTURE.

WHEN a Horse is seized with the Gripes, he should be immediately led into a warm stable, where no draft or air can blow upon him, and the doors and windows be kept shut; throw down plenty of straw for him to roll upon, and well clothe him all over with rugs, or sacks, or any other warm clothing that can be got; and if these are not at hand, two or three trusses of straw should be employed to cover him when he lies down.

As soon as possible let him have one-third of a quart bottle of the Gripe Medicine given him, which is sufficient for a drink; wait twenty minutes or half an hour, and if he is not easier, give him a second drink, though it frequently happens that one is sufficient; at the end of an hour after the second drink, if there are indications of great pain, let a third be administered, which in some violent cases may be required, and even a repetition of it every hour till he shews signs of recovery, which will be the longer if he has not been attended to soon after the being seized, or according to the degree of violence of the attack,

Whether standing up or lying down, let him be well clothed with rugs or any kind of covering, in this way a perspiration is often brought on, which should on no account be checked, (though the drinks are best administered to him standing up.) It is useful, though not absolutely necessary, to give a glyster of half a pail of warm water, with a handful of bran and the size of a nutmeg of soft soap rubbed together and squeezed into it, or the same of oatmeal, or in case these are not at hand, a small handful of common salt; raking the fundament of dung is also in some cases of use, but is better omitted than to do it by much exposure to the cold air he must not be walked about, nor any rubbing be used with a stick, but if the hand covered with flannel can be conveniently introduced under the clothes by rubbing the abdomen, it will be very beneficial.

When composed and free from pain, as in an hour or two after the attack, two or three quarts of blood taken from the jugular or neck vein will be serviceable in subduing any rising inflammation of the intestines; and if he feeds, which on recovery they are apt to do, a little warm water should be given him to drink, and his food be warm bran-mashes, and good meadow hay only, for the next twenty-four hours, especially if the case has been very violent.

The undersigned Gentlemen have given their testimony of the Efficacy of this Medicine for the Gripes.

Brewhouse, Shoreditch, April 30, 1814.

WE can safely bear testimony of the efficacy of the Gripe-Tincture for Horses, prepared by Mr. Clark, not having lost a Horse with that complaint during several years that we have kept it in the stable ready for use.

T. M. & R. PRYOR.

King's Arms Brewhouse, Whitechapel, London,

DEAR SIR,

May 5, 1814.

WE think it a justice due to you to state, that it is now about ten years since we first used your medicine for the Gripes in the way directed, and we have not lost a single Horse with it, although we have had several desperate cases.

We remain respectfully your friends,

JOSEPH & SAMUEL TICKELL.

To Mr. B. Clark.

HAVING lived with Mr. Clark nine years, I can safely aver, that since his discovery of this medicine and mode of treatment we have not lost above two cases, and then only when the disease had run its course before any medicine was administered, as may happen through neglect, or to Horses seized in the night, or very far from home, where they were not provided with the medicine; we have seen a Horse cured by it seven hours after the attack, and a very violent one.

JOHN PAYTON.

April 15, 1814.

E R R A T A,

P. 8. l. 2. hatsful, read hatfulls, improperly altered by the printer.

P. 19. l. 1. more a, read a more.